



DEPARTMENT OF VETERAN AFFAIRS AND

AMERICAN PARKINSON DISEASE ASSOCIATION, INC.

Spring 2015

PARKINSON PRESS NEWSLETTER

Consider the environment. Print newsletter as necessary.

Skin Biopsy: Potential Tool in Diagnosis of Parkinson's Disease

John H. Peacock, MD, PhD

The medical note in this issue of the Parkinson Press reviews the potential of a skin biopsy in the diagnosis of Parkinson's disease and addresses the following. What is the current state of the art meaning can alpha-synuclein be detected reliably in skin biopsies from individuals with Parkinson's disease? Is this the same alpha-synuclein found in nerve cells in the *substantia nigra* in brains of Parkinson patients? Will alphasynuclein be found in individuals having a risk of developing Parkinson's disease but not yet manifesting the signs of Parkinson's

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disease? Could alpha-synuclein be used as a marker for the progression of Parkinson's disease or as a measure for the response to neuroprotective therapy? "Tongue in Cheek" question for the day: should all of us get one, meaning a skin biopsy for alpha-synuclein given the prevalence for Parkinson's disease for 65 year old or older individuals.

Why alpha-synuclein? You will recall from previous newsletters that alpha-synuclein is a normal protein in nerve cells but it has folded into an abnormal 3-dimensional shape. The

misfolded alpha-synuclein accumulates in dopamine-producing neurons "choking" off normal function. As a result there is decreased production of dopamine and eventually cell death.

What do we know about the detection of alpha-synuclein in skin biopsies? Alpha-synuclein is found in neurons in several locations inside the central nervous system (brain and spinal cord) with the substantia nigra having a particularly high density of dopaminergic nerve cells. Alpha-synuclein is also found outside the central nervous system in nerve endings leading to several organs including the gastrointestinal system, the adrenal glands, heart, and the skin.

Skin biopsy results from a study team headed by Dr. Rodriguez-Leyva. Alpha-synuclein was examined in skin biopsies from 67 patients who had either classical Parkinson's disease or atypical Parkinson's disease and 20 control patients who did not have either condition. Thirty four patients had classical Parkinson's disease. Among those with Parkinson's disease, alpha-synuclein was detected in high percentage in three layers of the skin (58% spinous cells, 62% pilosebaceous unit, and 58% eccrine glands). The location and function of these layers within skin is not the point of the recitation, but the comparison with atypical parkinsonism was 7%, 7%, and 0% respectively. Importantly, control skin showed 0%.

Important concept. This investigation was an immunohistochemical study using techniques for the identification, not the quantification of alpha synuclein. The probe was a commercially available antibody that specifically adhered to alpha-synuclein and could be labeled with fluorescent and other markers for microscopic identification. This was not a biochemical study that measured the quantity of alpha-synuclein.

<u>Is this the same alpha-synuclein found in nerve cells in the substantia nigra in brains of Parkinson patients?</u> Yes, the antibody probe is specific for alpha-synuclein both within the central nervous system and outside the central nervous system.

Will alpha-synuclein be found in individuals having a risk of developing Parkinson's disease but not yet manifesting the signs of Parkinson's disease? This is a key question and suggests a research project. Those individuals in the study group with anosmia (loss of sense of smell) or active dreaming who have not developed Parkinson's disease but are potentially at risk for Parkinson's disease might be serially checked for the presence of alpha-synuclein in their skin.

<u>Could alpha-synuclein be used as a marker for the progression of Parkinson's disease</u>? It is possible that the percentage of skin cells positive for alpha-synuclein will increase over time and parallel the progression of Parkinson's disease. Another research project?

Could alpha-synuclein be a measure for the response to neuroprotective therapy that will be developed in the future? For example, the potential benefits of resveratrol were discussed in the last newsletter. Resveratrol stimulates the production and release of growth factors such as glial cell line-derived neurotrophic factor (GDNF) and brain-derived neurotrophic factor (BDNF). Both factors are important in the life cycle of dopaminergic

neurons in the substantia nigra. Could neuroprotection be reflected in the expression of alpha-synuclein outside the brain, i.e. skin?

<u>Should we all get a skin biopsy for alpha-synuclein when it becomes available to everyone?</u> This is not a facetious comment. It is possible that a skin biopsy could be used routinely to predict the future of degenerative neurological disease (Parkinson's and Alzheimer's diseases) that have already started and thus allow initiation of treatment in an individual early enough to stop progression. This would be an exciting development.

<u>Conclusion</u>. This important report from Dr. Rodriguez-Leyva and his group is another exam of the multifaceted research into the cause, detection, and treatment of Parkinson's disease.

REFERENCES

 Rodriguez-Leyva I, et al. a-Synuclein inclusions in the skin of Parkinson's disease and parkinsonism. *Annals of Clinical and Translational Neurology* 2014; 1(7): 471–478.

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Disclaimer:

The material in this newsletter is presented solely for the information of the reader. It is not intended for treatment purposes, but rather for discussion with the patient's physician.



Veteran Update



Online VA Claims: Get step-by-step instructions for filing an electronic Fully Developed Claim for disability compensation on eBenefits. Watch the Department of Veterans Affairs (VA) video on <u>YouTube</u>.

VA **Debuts New ID Cards:** The Department of Veterans Affairs has announced the phased roll out of newly designed, more secure Veteran Health Identification Cards. The new cards are distinguished by additional security features and will have a different look and feel. The news card will also be a Veterans Health Identification Card (VHIC) displaying the Veteran's Member ID, a new unique identifier, as well as a Plan ID, reflecting the Veteran's enrollment in VA health care. Enrolled Veterans can get more information about the VHIC by visiting their VA medical facility enrollment coordinator or at the VHIC webpage at www.va.gov/healthbenefits/vhic, calling 1-877-222-VETS (8387) or visiting their local VA health care facility. Veterans who are not enrolled in the VA health care system can apply for enrollment at any time by visiting the VA Enrollment webpage at www.va.gov/healthbenefits/enroll, Calling 1-877-222-VETS (8387) or visiting their local VA health care facility.

Dr. J. Bronstein is the Director for the VA-Southwest Parkinson's Disease Research, Education and Clinical Center (comprised of southwestern US), as well as Co-Chair of National VA Parkinson's Disease Consortium.

My HealtheVet: The Department of Veterans Affairs My HealtheVet website is designed to allow veterans enrolled in VA health care to check their health records, make and cancel appointments, or refill prescriptions from a computer or tablet. Veterans can send secure e-mails back and forth to their doctors about available treatments without having to go in for an appointment or wait for a phone call. The VA hopes to expand the program and other benefits under one specific app for Android or iPhones as early as this summer.

RESEARCH OPPORTUNITIES

If you are interested in current research regarding Parkinson's disease, please visit one or all of the sites listed below.

Fox Trial Finder

www.foxtrialfinder.org

This is a website developed by the Michael J. Fox Foundation that helps people diagnosed with PD find personalized matches to clinical trials.

Clinical Trials

www.ClinicalTrials.gov

The U.S. National Institutes of Health developed this site to provide patients, family members and the public with current information about clinical research studies being funded by government and private industry. By searching for Parkinson's disease, you can get a listing of all clinical trials (including contact information) for Parkinson's disease being conducted in the U.S. and internationally. This site also provides information on the clinical trials process.

Center Watch

www.centerwatch.com

Center Watch is a listing service for clinical trials both industry and government funded. By searching for Parkinson's disease, you can get a listing of all clinical trials for Parkinson's disease being conducted in the U.S. and internationally. Contact information for each trial is included.



Patient Access Network Foundation Announces Launch of Financial Assistance Program for Parkinson's Patients: The Patient Access Network Foundation has launched a financial assistance program for patients with Parkinson Disease. Please see the information below. For applications and eligibility questions, call 866-316-7263. To learn more visit http://www.panfoundation.org/parkinsons-disease

The Patient Access Network Foundation (PANF) is proud to announce the launch of its newest financial assistance program for patients being treated for Parkinson's disease. The new fund will be one of nearly 60 disease-specific funds offered by the PANF, spanning programs for cancer, chronic illnesses and rare diseases.

PANF's new Parkinson's disease fund will help eligible individuals and their families by paying for out-of-pocket costs of critical medications; thereby reducing financial barriers to treatment and hopefully improving the quality of life for many people living with Parkinson's.

Patients who qualify for PANF's Parkinson's disease fund are eligible to receive up to \$16,500 per year to cover costs associated with their medications. To qualify, applicants need to have insurance that covers the medication for which they seek assistance, they need to reside and receive treatment in the United States, and they need to have a household income less than or equal to 500 percent of the Federal Poverty Level.

Upcoming Educational Events

XXII World Congress of Neurology, October 31-Novemeber 5, 2015, Santiago, Chile. For further information, please contact Kenes International-WCN, World Congress of Neurology@mail.vresp.com

pain

ctiffnass

balance

falling

slowness

tromors





is Parkinson's Disease Awareness Month

difficulty swallowing

For more information about Parkinson's disease call:



AMERICAN PARKINSON DISEASE ASSOCIATION at: 1-800-223-2732

or call your local APDA representative at:

Governor's Proclamation Presented at
Atria Senior Living, 4880 Summit Ridge Dr.
April 10, 2015 from 2:00-3:00PM

or visit our Web site: www.apdaparkinson.org

visit our web site: www.apuaparkinson.org

Ease The Burden - Find The Cure



American Parkinson's Disease Association

Optimism Walk for Research

The Reno, Nevada Walk-a-thon will be held at Virginia Lake Park, 1980 Lakeside Drive on June 6, 2015 with registration starting at 9:30am.

The Optimism Walks begins at 10:00am and finishes at approximately 1:00pm.

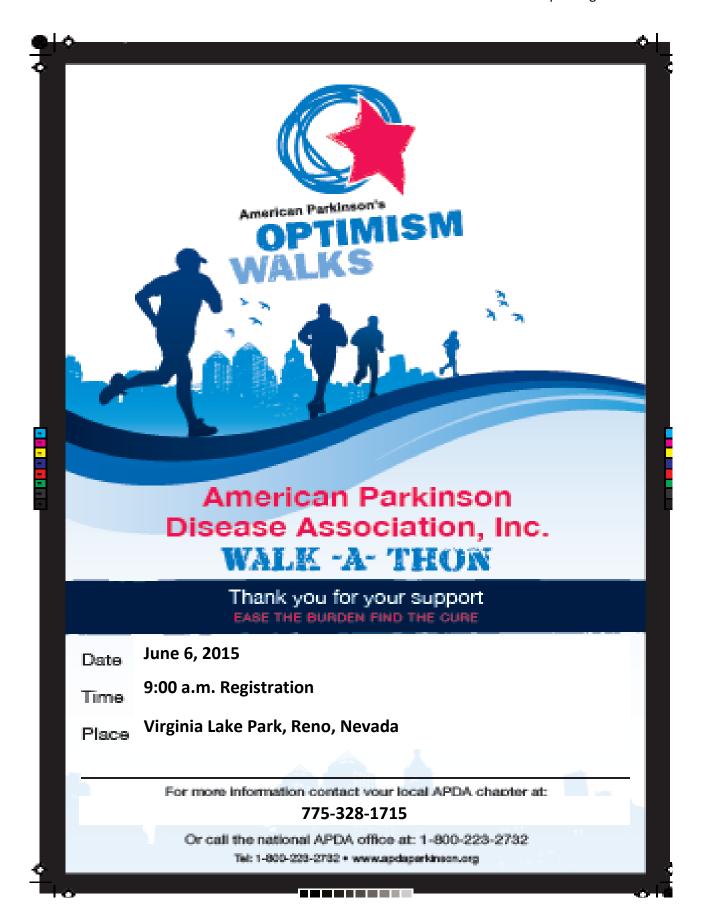
Your \$25.00 Registration Fee gives you 1-t-shirt and 1 ticket for our community donated prizes. Organize a team of walkers or walk as an individual.

Please contact Susan Gulas at 775-328-1715 or email Susan.Gulas@va.gov for more information.

Community Sponsors for 2015 Optimism Walk for Research Partial Listing

Cascades of the Sierra
Five Star Premier Residences of Reno
The Continuum
Moana Nursery
Swire Coca Cola

Harrah Automobile Foundation Ruby River Steakhouse Red's old 395 Grill PJ& CO. restaurant & Saloon the Gold 'n Silver Inn



Northern Nevada Support Groups

Contact information: 775-328-1715 or 888-838-6256 ext. 1715 Website: www.reno.va.gov/parkinsons/parkinsons.asp

Spanish Springs	April 1	May 6	June3
First Wednesday	Patty WoytekRN	Rachel Carr	Paula Gessler PT
10:00 am	Gentiva & Exercise	Medication Therapy Management	Exercise & PD
Cascades of the Sierra, 275 Neighborhood way			

Carson City	April 14	May 6	June 9
Second Tuesday	Hope Williams	Kim Mason RD	Valerie Williams PhD
2:00 pm	Talking Books	PD & Nutrition	Cognitive Decline in PD
Carson City Senior Center, 911 Beverly Drive			

Reno	April 10	May 8	June 12
Second Friday	Proclamation	Kelly Cramond	Group Members
2:00 pm	Support Group Members	Anxiety, Fatigue & Sleep in PD	Group Discussion
Atria at Summit Ridge, 4880 Summit Ridge Drive			

Reno	April 21	May 19	June 16
Third Tuesday	Byron Parks SW	Bonnie Deach	Group Members
5:00pm	Caregiver Support Program	LSVT	Group Discussion
Veterans Administration Medical Center			

Sparks	April 23	May 28	June 25
FourthThursday	Jeff Dold	Cindy Chorjel	Jo Ann Davis
	Administrator	OTR	
2:30 pm	More to Life	Equipment needs in PD	Interim Health Care
Morning Star Senior Living, 2360 Wingfield Hills Drive, Sparks, NV			

Reno	April 16	May 21	June 18
Third Thursday	Cathy Steed	Group Members	Marcy Welch
2:00pm	Aging & Disability Services	Group Discussion	Osher Lifelong Learning Institute
Five Star Premier Residences of Reno, 3201 Plumas Street, Reno, NV 89509			

Elko-Las Vegas- Reno	April 3	May 1	June 5
First Friday	Proclamation	Brian Terres	Dawn Currie DPh
1:00 pm	Support Group Members	DBS & Duopa	Medications in PD
University of Nevada Cooperative Extension, 4955 Energy Way. Reno, NV University of Nevada Elko, 701 Walnut Street, Elko, NV			

VAMC Los Angeles PADRECC Veterans Telephonic Support Group

Join us ~2 min. prior to the hour on the 2nd Tuesday of each month 1-800-767-1750, Access code 54321#
Virginia Janovsky, MN, MS, RN-BC
Clinical Coordinator/Research Study Coordinator
Southwest Parkinson's Disease Research, Education and Clinical Center Cardiology-Pulmonary Arterial Hypertension Research
Veterans Affairs-Greater Los Angeles Healthcare System (310) 478-3711, x4804

The NeuroCommunity Foundation is presenting its 9th annual Parkinson's Pathways symposium at Northridge Hospital Medical Center on May 2nd, 2015:

Join us for a symposium designed to educate and inspire people with Parkinson's disease and those who care about them! The keynote speaker is renowned movement disorder specialist Dr. Jeff Bronstein, Director, UCLA Movement Disorders Program. Dr. Bronstein will present the latest updates on the management of PD. Our NeuroCommunity Research Ambassador will give a testimonial on local studies to develop new therapies for Parkinson's... and why it takes so long. We've also included a session that will keep you moving with exercise, music and fun led by Rich Grenn. Movement Disorder Specialist Dr. Ronald B. Ziman will moderate the Q&A session and

offer closing remarks.

The 2015 Parkinson's Pathways symposium will again feature a Medical and Local Resources Expo where you can interact with experts and we will present the results of Debbie DeCaro's CSUN wellness research study. The symposium is free and a light luncheon and refreshments will be offered.

When: Saturday, May 2nd from 12 pm to 4 pm (check in and Expo start at noon; education program starts at 1 pm)

Where: Northridge Hospital Education Auditorium (Main Entrance on Etiwanda Ave) in

Northridge, CA

Cost: Free

Space is limited and this program always fills up quickly. Reserve your seats now by emailing neurocommunity@gmail.com or leave a message at 818-885-8623.

Full details at http://neurocommunity.org/latest-updates-on-the-management-of-pd

Nevada The American Parkinson Disease Association (APDA) Information & Referral (I&R) Center for and the Dedicated Veterans I&R Center will receive the Proclamation, declaring April 2015 as Parkinson's Disease Awareness Month in the State of Nevada, on April 10, 2015 from 2:00-3:00PM. The ceremony will be hosted by Atria Senior Living Group, 4880 Summit Ridge Drive, Reno, Nevada. All those interested are invited to learn more about Parkinson's disease and how they can help.

"Every nine minutes there is a new diagnosis of Parkinson's disease and with more than 60,000 Americans being newly affected each year and at least as many caregivers. APDA is proud to continue to meet the challenge to *Ease the Burden – Find the Cure* through research, patient support and education," said Susan Gulas, RN, MSN, I&R Coordinator in Nevada.

APRIL IS PARKINSON'S DISEASE AWARENESS MONTH!

Take Action – 30 Days, 30 Ways, To Make a Difference.

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